



NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 23-160

Dear Colleague Letter: STEM Access for Persons with Disabilities (STEM-APWD)

September 28, 2023

Dear Colleague:

With this Dear Colleague Letter (DCL), the National Science Foundation (NSF) wishes to notify the research community of a new initiative called STEM Access for Persons with Disabilities (STEM-APWD) that seeks to increase the engagement of persons with disabilities (PWD) in science, technology, engineering and mathematics (STEM) fields across seven directorates at NSF:

- Biological Sciences (BIO)
- Computer and Information Science and Engineering (CISE)
- Engineering (ENG)
- Geosciences (GEO)
- Mathematical and Physical Sciences (MPS)
- Social, Behavioral and Economic Sciences (SBE)
- Technology, Innovation and Partnerships (TIP)

Researchers in the Directorate for STEM Education (EDU) are referred to [DCL NSF 21-110: Persons with Disabilities - STEM Engagement and Access \(PWD-SEA\)](#).

PWDs represent the [world's largest minority group](#). This DCL is designed to improve access to NSF funding for persons with all types of disabilities.¹ This DCL invites submissions from eligible organizations² under two broad types: 1) conference proposals and 2) requests for supplemental funding to existing awards. Proposals and supplemental funding requests may be submitted by eligible organizations on behalf of principal investigators with or without disabilities, but must be used to advance objectives that increase access to, and equity in, STEM research and training among persons with disabilities. The response to this DCL will inform future steps for STEM-APWD.

BACKGROUND

Broadening participation in STEM is crucial for scientific discovery and innovation. Recent estimates suggest that persons with disabilities (PWD) represent at least [26% of the American population](#), [19% of post-secondary students](#), [8% of graduate students](#) and [4% of American faculty](#).³ College-educated PWD with degrees in science and engineering (S&E) fields experience higher unemployment rates than their peers without disabilities. Furthermore, PWD with S&E degrees who are employed are less frequently working in S&E occupations.⁴ Thus, at increasing levels of education and specialization, disabled individuals are increasingly under-represented. Many of these individuals could be making significant contributions to our nation's scientific innovation enterprise if they were provided greater access to STEM.

This DCL responds to [Executive Order 13985](#) and [NSF's strategic plan for fiscal years 2022-2026](#), both of which prioritize expanding opportunities for everyone. Opportunities for PWD are an important part of that work. Executive Order 13985 requires federal agencies to assess barriers to accessing federal benefits and opportunities and to allocate resources to promote equitable delivery of federal benefits and opportunities. Further, NSF's strategic plan describes core values and strategic objectives to ensure access and inclusion, increase involvement of communities underrepresented in STEM, and enhance research and STEM education capacity throughout the nation. PWD represent a significant fraction of the "missing millions" that NSF aims to empower.⁵ This DCL aims to advance scientific vitality and innovation by increasing submission rates and participation in NSF projects among investigators with disabilities.

STEM-APWD

Proposals and supplemental funding requests are sought that address intersections between disability and fundamental science and generalizable research that addresses pathways from theory to application and use. Conferences and requests for supplements are expected to be wide-ranging, across topics and actions to support access to and engagement in STEM research, training and employment activities for persons with disabilities.⁶ Topics that could be considered by conference proposals and actions directly supported by supplemental funding requests could include, but **are not limited to**:

- Assessment of variable barriers to participation, or consideration of strategies to enhance participation and cultures of inclusion as they arise across diverse areas of STEM research.
- Evaluation of the success of various strategies designed to enhance participation in STEM research and development of new metrics to assess such success.
- Innovative infrastructure to enhance STEM access and engagement in diverse fields of science and engineering.

- Support for researchers and trainees with disabilities to provide greater access to, and engagement in, STEM research.
- Development of evidence-based mentoring and research activities to improve sustained support for, and representation of, researchers and trainees with disabilities.
- Support for technology, tools, equipment and instrumentation, and the physical and non-physical modifications necessary to access them in research labs, libraries, informal science settings or field-based environments, or improvement to instruction settings to achieve greater access to, and engagement in, STEM research, teaching, training and learning. Some examples include but **are not limited** to: elevated or lowered lab tables, investigations that support flexibility in scheduling or demands, accommodations for service animals in research labs or other educational environments, and additional staff to support areas affected by project members' disabilities. Please note that requests for supplemental support may not include equipment or assistance that compensate in a general way for the disabling condition, but must be specific to project objectives.
- Creative modification of research practices and cultures to promote increased recruitment and retention of researchers and trainees with disabilities.
- Foundational and use-inspired STEM research relevant to researchers and trainees with disabilities.

SUBMISSION INSTRUCTIONS

Individuals with disabilities who need accessibility accommodations to access NSF proposal submission and award management systems, websites, and other digital content must contact the NSF Section 508 Compliance Officer at least 30 days prior to the proposal target date listed below to coordinate proposal submission assistance between their institution's accessibility office and NSF.

Prior to submitting a conference proposal, investigators should contact a member of the PWD working group via the alias below to confirm appropriateness of fit with this DCL. If approved to submit, additional instructions for how to submit a conference proposal to STEM-APWD will be provided. If approved to submit a conference proposal, a copy of the communication with the working group must be uploaded in the Other Supplementary Documents section of the proposal in Research.gov.

Supplemental funding requests should be submitted to the program managing the original award in accordance with guidance in Chapter VI.E. 5 of the [NSF Proposal & Award Policies & Procedures Guide \(PAPPG\)](#). Prior to submitting a request for supplemental funding, approval must be obtained from the NSF program director managing the original award, which must be uploaded with the file name "Supplemental Funding - Program Officer Concurrence Email" in the Other Supplementary Documents section in Research.gov.

When responding to this DCL, please include "STEM-APWD:" at the beginning of the title and

in the Project Summary and Project Description of conference proposals. Please include "STEM-APWD" in the Summary of Proposed Work section of supplemental funding requests.

Organizations can submit the following:

- Type 1: Conference proposals, inclusive of indirect costs, must not exceed \$100K.
- Type 2: Supplemental funding requests as described in the PAPPG. Requests must be submitted at least two months before funds are needed and may not exceed \$100,000 for this DCL. Note that supplemental funding requests that request greater than 20% of the existing award budget will require external review.

The 2023 target date for proposal submissions of both types is 5 p.m. submitter's local time on December 7, 2023. The target date in 2024 and annually thereafter will be 5 p.m. submitter's local time on the second Thursday in November.

Proposals must be prepared and submitted in accordance with the guidelines contained in the PAPPG. Guidance on preparation of conference proposals is provided in PAPPG Chapter II.F.9. Guidance on preparation of supplemental funding requests is provided in PAPPG Chapter VI.E.5. Conference proposals may be submitted via Research.gov or Grants.gov. Supplemental funding requests must be submitted via Research.gov.

Privacy-related information should not be disclosed as part of these requests. NSF does not require specific information on project personnel's disability status to process related requests for funding.

[Refer to this table for additional NSF PWD-related opportunities.](#)

POINTS OF CONTACT

Investigators interested in submitting a proposal are strongly encouraged to contact one of the program directors listed below for further information:

- Joel Abraham, BIO (jkabraha@nsf.gov)
- Allyson Kennedy, CISE (aykenned@nsf.gov)
- Nora Savage, ENG (nosavage@nsf.gov)
- Lina Patino, GEO (lpatino@nsf.gov)
- Yulia Gel, MPS (ygel@nsf.gov)
- Simon Fischer-Baum, SBE (sfischer@nsf.gov)
- Pradeep Fulay, TIP (pfulay@nsf.gov)

Questions about this DCL may also be directed to STEM-APWD@nsf.gov.

Sincerely,

Dr. Susan Marqusee, Assistant Director
Directorate for Biological Sciences (BIO)

Dr. Margaret Martonosi, Assistant Director
Directorate for Computer and Information Science and Engineering (CISE)

Dr. Susan Margulies, Assistant Director
Directorate for Engineering (ENG)

Dr. Alexandra R. Isern, Assistant Director
Directorate for Geosciences (GEO)

Dr. Sean L. Jones, Assistant Director
Directorate for Mathematical and Physical Sciences (MPS)

Dr. Sylvia Butterfield, Acting Assistant Director
Directorate for Social, Behavioral and Economic Sciences (SBE)

Dr. Erwin Gianchandani, Assistant Director
Directorate for Technology, Innovation and Partnerships (TIP)

¹ Such disabilities may be both visible and invisible. They include, but are not limited to, disabilities affecting development, thinking, learning, hearing, mobility, vision, self-care, and mental health, as well as other health-related disabilities. Neurodiverse conditions such as dyslexia, autism spectrum disorders and learning disabilities, are also included, as are temporary and chronic disabilities that affect access to and engagement in STEM.

² Refer to PAPPG Chapter 1E. Who May Submit Proposals.

³ Estimates of disability prevalence vary widely and depend in part on how disability is defined.

⁴ Data are from the National Center for Science Engineering Statistics (NCSES), National Survey of College Graduates. For more information on the experiences of persons with disabilities, please see the [Women, Minorities, and Persons with Disabilities in Science and Engineering report](#).

⁵ For more about the missing millions, see [this missing millions figure](#) from the National Science Board.

⁶ For example, high school, undergraduate and graduate students; research participants;

postdoctoral research scholars; K-12 teachers, staff and faculty with disabilities. Hereafter, all of these groups are encompassed by the term "researchers and trainees."